A MONETARY KEYNESIAN VIEW OF MODERN MONETARY THEORY

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Summary: Modern Monetary Theory (MMT) places money at the center of the analysis and highlights the important economic role of the state in a monetary market economy in which full employment is neither the norm nor a center of gravity. In the policy debate, MMT polarizes by arguing that a modern state faces neither a budget constraint nor a potential solvency problem. Economic policy conclusions such as these arise because MMTers neglect crucial elements of their own theoretical framework. In the process, they ignore key macroeconomic relations that require weighing different risks or objectives. Budget deficits may be necessary to achieve economic stability and high employment, but the stabilizing role of economic policy is not without constraints. In particular, monetary financing of budget deficits has limits even in the event of underemployment because economic stability in a monetary market economy hinges on the scarcity of money.

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Introduction

Both Monetary Keynesian Theory and Modern Monetary Theory (MMT) place money at the center of the analysis and highlight the role of macroeconomic stabilization policies in monetary market economies in which full employment is neither the norm nor a center of gravity. Economists of the MMT persuasion polarize with the claims that a modern state could "never have a solvency problem" (Kelton 2019) and a state with its own currency has "no budget constraint" (Mitchell et al. 2019: 13).[1] Whereas former Fed Chair Yellen believes MMT authors to be "confused" (Curran 2019) and ECB President Lagarde (2019) interprets MMT as relevant only in times of deflation, Summers (2019) and Rogoff (2019) classify the ideas of MMTers as dangerous. Brad DeLong (2019) and Peter Bofinger (2019) represent a small minority among economists with a cautiously positive attitude towards MMT. From a Monetary Keynesian perspective, the key flaw of MMT lies in failing to properly account for the pivotal role of money in regulating the economy (Riese 1995).[2]

In the following, we first provide an overview of Modern Monetary Theory. We then present the strengths of this macroeconomic approach by showing that MMT is in essence Keynesian and as such provides a coherent and insightful analytical framework for a modern monetary economy. In the subsequent section, we discuss the weaknesses of MMT, which are particularly pronounced in the area of economic policy conclusions. We then demonstrate that the untenable policy assertions stem from a neglect of several essential elements of the Keynesian framework. In particular, by failing to appreciate money as an asset, MMTers dodge those aspects of macro policy that are particularly tricky and make it necessary to prioritize objectives and assess risks. We conclude by summarizing the main points in the context of the tectonic shift in macroeconomics since the Great Recession.

MMT in a nutshell

MMT emerged in the 1990s in the US with its most prominent advocates being Warren Mosler, Bill Mitchell, Jan Kregel, Stephanie Kelton, Pavlina Tcherneva, Mat Forstater, Edward Nell, Scott Fullwiler and Eric Tymoigneist. MMTers reject not only the various supply-side economic theory, but also the standard IS-LM model (neoclassical synthesis) of the 1970s and 1980s as well as the New Keynesian theory, the new economic mainstream since the 1990s.

MMT combines elements of the theory of effective demand in the writings of Keynes and Kalecki with Knapp's theory of state money (Knapp 1905), Godley's stock-flow consistent approach (Godley 1996), Lerner's functional fiscal policy (Lerner 1943) and Minsky's financial

[1] "The most important conclusion reached by MMT is that the issuer of a currency faces no financial constraints" (Mitchell et al. 2019: 13).

[2] As an economics professor at the Free University of Berlin, Hajo Riese (1933-2021) originated Monetary Keynesian Theory in the 1980s. Monetary Keynesian theory draws on Keynes' *A Treatise on Money* and *The General Theory* to identify the essence of money in monetary market economy. Highlighting the function of money as a means of contractual settlement, Monetary Keynesians hold that decisions pertaining to money play a key role in determining economic outcomes and, at the same time, constrain economic policy.

market analysis (Minsky 1986). Analyses focus on the fiscal policy of a sovereign state with its own currency. In such a modern market economy, budget deficits are rightly not viewed as intrinsically harmful.

Whether a balanced budget, a surplus or a deficit is warranted from a macroeconomic perspective depends, according to MMT, on aggregate demand and thus, in particular, on whether the private sector aims at a spending surplus or an increase in financial assets. The latter is only possible if the state or the rest of the world run a corresponding deficit. It follows that a budget deficit is too high when signs of inflation emerge, while it is too low when there is unemployment.

MMTers emphasize that the state cannot be equated with private economic entities. In particular, the government has greater control over the sustainability of its debt because it influence the future stream of tax income by varying taxes (fiscal sovereignty), pursuing adequate macroeconomic policies and employing general economic policies such as infrastructure investment (Kelton 2019). Up to this point, there is not conflict with Post-Keynesian and Monetary Keynesian reasoning. As discussed below, however, Monetary Keynesians do not share the further view that monetary policy can keep interest rates below the economic growth rate at will (Wray 2015: 66). Rather, the extent to which the central bank is able to keep its policy rates and longer-term rates below the growth rate while at the same time maintaining stability depends on the circumstances.

In line with other post-Keynesian theories, MMT views money- and credit-mediated economies as inherently unstable and with a tendency to produce persistent underemployment equilibria. According to MMTers, however, neither instability nor underemployment are inevitable, but can be eliminated through active fiscal policy and, in particular, a government job guarantee, and market regulation. The only constraint on government spending in a country with a sovereign currency and flexible exchange rates is inflation.

MMT's strengths

One strength of MMT is to place money at the center of the analysis. Keynes (1936) had already worked out that money does not merely cast a veil over the real economy, but rather affects the level of production and of employment in addition to the price level. A modern market economy is not a barter economy in which a particularly suitable commodity assumes the role of medium of exchange (means of transaction). The specific role of money in a monetary economy does not result from it being used as a means of transaction but rather from its function as the means of contractual settlement and as a store of value.[3]

The basic theoretical idea of Modern Monetary Theory is "Taxes drive money" (Wray 2015: 278). In line with Knapp's Theory of State Money, people accept a currency as money

[3] Money is "that by the delivery of which debt-contracts and price-contracts are *discharged*, and in the shape of which a store of General Purchasing Power is *held*" (Keynes 1930: 3).

because “there is an enforceable obligation to make payments to its issuer in that same currency” (Wray 2015: 278). Money has value because the state creates liabilities, especially taxes, which have to be settled in this money. At the logical beginning of a monetary economy, therefore, citizens have a liability towards the state that creates a demand for the national currency to settle the debt (Wray 2015: 54).

Monetary Keynesianism derives money similarly (Spahn 1988, Schelkle 1992, Tober 1999) and, on occasion, even neoclassical economists (Starr 1974). The state creates a demand for the national currency by imposing taxes or levies denominated in this currency. Subsequently, the national currency becomes a means of transaction as economic agents exchange their labor and produced goods for this money to pay their debts to the state. This initial acceptance of the currency enables the state to stabilize the value of the currency by limiting its volume through monetary policy (Riese 1995) or fiscal policy (Ehnts 2017: 72). A widely accepted currency then also serves as a store of value.[4]

Another strength of MMT is the description of the interaction between the central bank and the banking system. Contrary to frequent representations in textbooks, the central bank does not determine the money supply, but sets its policy rates, whereas the money supply is endogenously determined by the interaction of banks and non-banks. Accordingly, MMTers felt vindicated when the Bank of England clarified in 2014 that “in reality, the theory of the money multiplier operates in the reverse way to that normally described” (Bank of England 2014: 21) and the Bundesbank wrote in a monthly report three years later that “the ability of banks to lend and create money does not depend on whether they already have free central bank balances or deposits.” (Deutsche Bundesbank 2017: 15). The idea that money and credit are created “out of nothing” (Riese 1995) and initiate income formation is found already in Keynes (1930) and Tobin (1963). Yet, two leading central banks recently felt the need to deal with the topic in detail suggesting persistent confusion caused by some defunct economist.[5]

A strength of MMT, closely related to the endogeneity of money, is the Keynesian savings paradox underpinned by the balance mechanics developed by Wolfgang Stützel and Wynne Godley. MMTers, like other post-Keynesians, argue that only central bank money and government bonds can represent net financial assets for the private sector in a closed economy. Therefore, a balanced government budget implies that the private corporate sector and the private household sector together do not accumulate savings (Wray 2015: 212). If, on the other

[4] The loss of money functions takes place in reverse order. As a result of higher inflation, after a war, for example, the currency first loses its role as a store of value, then it is replaced as a means of transaction by more stable currencies or even goods (cigarettes after the Second World War) (Robinson 1938, Riese 1986: 214 ff.). The declining use as a store of value and means of transaction increases the velocity of circulation of money, so that inflation accelerates even without further monetary expansion (Riese 1986: 224, Wray 2015: 253). However, insofar as taxes continue to be paid in the national currency and longer-term contracts are denominated in the national currency, the function as a means of contractual settlement is the last one to vanish.

[5] We are paraphrasing Keynes who wrote in *The General Theory* wrote that people “who believe themselves to be quite exempt from any intellectual influences, are usually the slaves of some defunct economist” (Keynes 1936: 383).

hand, the private household sector seeks to save more than the corporate sector intends to invest, output and income will fall. After the global financial crisis and the Great Recession, this linkage became apparent when governments aimed for budget surpluses at a time when the private sector also attempted to deleverage (IMF 2015, 111ff, Krugman 2015). Whereas individuals can save more by reducing their spending, society as a whole can only save more if more is spent (Wray 2015, 27; Keynes 1936). Consequently, MMTers were part of the largely Keynesian opposition to the wide-spread view in the aftermath of the global financial crisis and especially during the euro crisis that governments, like private households, should reduce and consolidate spending in order to overcome the crisis. Not only is the budget constraint of the state less rigid than the budget constraints of private households, the state, furthermore, has the responsibility of stabilizing effective demand, since full employment is neither the norm nor the center of gravity in a monetary economy.

MMTers also point out that the combination of a private sector surplus and a balanced government budget is possible only if the economy runs current account surpluses. They emphasize the obvious but often neglected insight that it is impossible for all countries to have current account surpluses: the surpluses of some must be matched by deficits of others. Like Keynes (1936), MMT interprets the mercantilist strategy of "closing an output gap" by tapping demand abroad as a beggar-my-neighbor strategy that shifts the problem of insufficient demand onto trading partner countries (Mitchell et al. 2019, 201, Spahn 1988, Robinson 1937).

MMT's job guarantee proposal is, in principle, also a strength of MMT. The idea is to stabilize the economy at the lowest possible level of unemployment by guaranteeing the availability of jobs that pay minimum wage level plus social security. The job guarantee keeps people in the labor market reserve socially secured and active. On the one hand, the job guarantee mitigates the social problems related to unemployment, and on the other hand – at least in theory – it forestalls qualification loss on the part of the unemployed and thus hysteresis in the labor market. According to MMTers, the job guarantee turns the minimum wage into an anchor for wages, thereby reducing inflationary pressure in upswings and deflationary pressure in downswings (Wray 2015: 223). Technically speaking, this policy proposal reinforces the rigidity of wages, which is seen as a market friction delaying the return to full-employment equilibrium in New Keynesian models. In (Post-) Keynesian models, this rigidity is not a market imperfection, but rather a mechanism that prevents cumulative changes in the price level and output (Leijonhufvud 1990: 272). According to MMTers, the proposed job guarantee curtails inflation during upswings as workers from this pool can be hired if wage demands in the private sector increase sharply. In downturns, inflation and output are stabilized since workers can fall back on guaranteed minimum-wage jobs. The MMT job guarantee thus reinforces the standard "deflation brake" of minimum wages and social security in Post-Keynesian models. Less compelling, however, is its suitability as an inflation deterrent (see below).

Weaknesses of MMT

Notwithstanding its sound Keynesian elements, MMT's weaknesses yield several questionable recommendations.

As part of the narrative that elevates fiscal policy to the rank of primary macro policy, MMT asserts the state must first spend the money it subsequently collects as taxes. Accordingly, Wray (2015, 3) states "...households need the government to spend before they can pay taxes!" This analytical error is all the more astonishing as MMTers emphasizes the endogeneity of money which is based on banks borrowing money from the central bank. Banks increase their liabilities to obtain the central bank money (reserves or banknotes) they need for lending. Consequently, there is no intrinsic linkage between the volume of central bank money and government spending.

Furthermore, MMTers assert that governments pursuing expansionary fiscal policies do not have to take into consideration the volumes of outstanding sovereign bonds or money. In the MMT framework, the only limit to fiscal expansion is full employment and the inflationary process it sets in motion. The reasons for the serenity concerning the money supply and the debt ratio are the flawed interpretation of money endogeneity and the similarly untenable thesis that a sovereign state whose liabilities are denominated in the national currency cannot become insolvent as it can always print enough money to service its debt (Wray 2015: 67).

It should be noted that in an environment of underemployment and very low interest rates, the latter assertion largely concur with the verdicts of many mainstream economists: Given a nominal policy rate near zero, the cost of additional government debt is low and policies that increase output partly pay for themselves (Blanchard 2019).[6] Moreover, budget deficits may even be necessary to prevent a crisis given the limited scope for monetary policy in such a scenario (Bernanke 2016, Bartsch et al. 2019).

However, MMT goes one step further and views fiscal policies aimed at high employment and output as expedient and risk-free in general. The reasoning is that the government is always able to service its debt by simply issuing more money even if the central bank raises interest rates to restrain inflationary pressures. This is true in that it is a tautology: If the government has debt denominated only in its own currency, debt can under all circumstances be serviced by using newly created money. What MMT tends to neglect are the economic consequences of such monetary financing. According to most economic theories, a permanent and continuous expansion of the money supply would imply the risk of increasing inflation. MMTers do acknowledge the link between monetized budget deficits and inflation or hyperinflation, even if they rightly reject the simple Monetarist version.[7] In fact, Wray (2015: 258ff) is right in asserting that, historically, several factors always coincided to produce

[6] See also the model in Schmidt (2017).
[7] "In conclusion, there is a link among high (or hyper) inflation, budget deficits, and 'money supply', although it is not a simple Monetarist dynamic" (Wray 2015, 263).

hyperinflation, in particular, negative supply shocks and the government's inability to generate tax revenues.

From a policy perspective, stabilizing a monetary economy is not only about preventing hyperinflation, but keeping inflation close to the central bank's target. Hyperinflation denotes monthly inflation rates of 50% or more,[8] which translates to an annual rate above 10,000 %. However, even high single-digit annual inflation is problematic because it gives rise to misallocation and distortions. Rates persistently above the central bank's target furthermore weaken the latter's role as nominal anchor and the effectiveness of monetary policy. MMT does not fully appreciate inflation as a cumulative process with price-wage spirals and currency depreciation that erodes the quality of the currency.

In an open economy, an increase in inflation through money creation can be derived within a variety of models – many used and accepted by most Post-Keynesians – without recourse to income inflation triggered by full employment. In its role as a store of value, money is an asset that competes with domestic securities and stocks as well as foreign assets. Just because it is the legal tender, it is not a foregone conclusion that recipients of a sum of money will want to keep the cash in their portfolio at given valuations, even if their intention is to save.[9]

Within a portfolio model, an (endogenous or exogenous) increase in the supply of money or domestic securities creates a higher demand for foreign assets (Tobin 1982; Dullien 2004). All else equal, the higher demand for foreign assets is satisfied by a depreciation of the domestic currency that increases the value of foreign assets.

The MMT literature does mention that a depreciation increases the domestic price level through rising import prices, but this is interpreted as a "one-time" increase (Wray 2015, 225). However, if the government continuously uses newly created money to service its debt service, the argument falls flat. A continuous expansion of the money supply would lead to portfolio decisions that imply a continuous depreciation. A continuous devaluation, in turn, means that import prices no longer cause a one-time price hike, but rather an increase in the rate of inflation even without second-round effects. This effect becomes even more pronounced when expectations are considered. If investors anticipate the money expansion and the resulting currency depreciation, they are likely to shift their investments into foreign currency in advance, thereby amplifying the import price increase.

Inflation and depreciation moreover undermine the quality of the currency as a store of value and increase the risk premium for securities denominated in that currency. Higher interest rates, in turn, negatively affect the government's fiscal position and depress investment. Although the central bank could try to lower long-term interest rates by buying government

[8] Cf. Cagan (1956) or Nicolini (2008).

[9] See Goodhart (1989: 33), who writes: "I will accept always any money offered me in payment for some sale at an agreed price, so that any addition [...] is always snapped up, but it does not mean that I will want to hold that amount of extra money in ultimate equilibrium."

bonds, the associated increase in the money supply would reinforce the portfolio shifts in favor of foreign assets.

The larger a price hike, the less likely workers are to accept the loss of purchasing power (Rudd 2021). As described by Mitchell et al. (2019), an increase in nominal wages would cause "cost inflation", which, if accommodated by economic policy, would lead to a further increase in inflation.[10]

The mechanisms for controlling inflation proposed by MMT are also less than convincing. On the one hand, MMTers argue that higher taxes or a reduction in government spending can be employed to reduce aggregate demand and curb inflation. On the other hand, the government job guarantee is viewed as a suitable instrument. In this context, Wray (2015: 223) and Mitchell et al. (2019: 290ff) argue that firms can recruit workers from the pool of those employed in the job guarantee more easily than in a situation without a job guarantee, because unlike the unemployed, those employed in the job guarantee would not lose their employability.

Both proposed types of instrument use are questionable: strong and frequent adjustments of tax rates are likely to lead to allocation distortions and adjustment costs; strong and frequent adjustment of government spending only makes sense if the government provides sufficient goods that are not considered necessary; otherwise, variation in government spending would lead to an unreasonable variation in the provision of public goods.[11]

The job guarantee called for by MMT does have the merit of being an automatic stabilizer. However, it is likely to be more effective in preventing deflation than inflation, since even in the most favorable case it merely allows the labor market reserve to be integrated more smoothly into the economic process, i.e. the labor supply that can be activated immediately is larger.

Analogous to the difficulties of significantly varying discretionary government spending over the cycle, there is the question of what tasks these employees should perform, since their deployment should vary greatly over the economic cycle to compensate for fluctuations in private sector demand. Important public goods are out of the question, as these goods also have to be provided in a boom (when hardly anyone is employed in the job guarantee). If, on the other hand, the employees in the job guarantee are to produce substitutes for private sector output, there is a risk of undermining private enterprises because the state emerges as a strong competitor in a downturn as employment in the job guarantee increases. However, if the employees in the job guarantee are supposed to produce neither desired public goods nor goods

[10] Riese (1986: 85ff.) criticizes Post-Keynesian analyses of cost-push inflation as unfounded in economic theory. According to Monetary Keynesian Theory, it is the interaction of income inflation and profit inflation that characterizes inflation as put forth in Keynes (1930). A cost push may trigger inflation. However, inflation as a process includes mark-up pricing as an essential component that stabilizes the profit rate which, in turn, is determined by the nominal interest rate and ultimately by the liquidity premium.

[11] Similarly, using discretionary spending to increase inflation presupposes sufficient projects in the queue.

for which there is a private-sector demand, it is unclear what they are supposed to produce and whether their capabilities are actually preserved – as assumed by MMT.

Conclusion

Modern Monetary Theory achieved its breakthrough in the aftermath of the global financial and economic crisis because of its focus on the macroeconomic role of fiscal policy, which had been severely neglected in previous decades. The Great Moderation from the mid-1980s, characterized by relatively small fluctuations in economic activity, had fostered confidence in the ability of monetary policy to stabilize economic activity. As collateral damage, the cyclical importance of fiscal policy faded into oblivion. Accordingly, the response to the crisis was lopsided, particularly in the euro area, and fiscal consolidation substantially aggravated the crisis.

Blanchard (2019) recently showed that the welfare losses and fiscal costs of budget deficits are small provided the risk-free interest rate is lower than the growth rate. He furthermore noted that given a negative output gap and a near-zero money market interest rate, budget deficits are not only necessary, but may have no cost at all (Blanchard 2019: 31-32). The theoretical challenge for MMT is to specify the conditions under which government bonds represent risk-free assets and are thus remunerated at the risk-free rate and the domestic currency is the risk-free asset par excellence. The core elements are already included in MMT, in that inflation represents the budget constraint for the government and there is awareness that even a government with a sovereign currency "can only buy what is offered in its currency" (Wray 2015: 127). Nonetheless, to anchor MMT's economic policy advice more firmly in reality, MMTers need to give more consideration to the fact that "confidence in the future solvency of economic agents" is the "key variable of a credit-based economy" (Riese 1995: 135).

Literature

Bartsch, Elga; Boivin, Jean; Fischer, Stanley; Hildebrand, Philipp (2019): Dealing with the next downturn: From unconventional monetary policy to unprecedented policy coordination. Black Rock Investment Institute, Macro and Market Perspectives, August.

Bernanke, Ben (2016): What tools does the Fed have left? Part 3. Brookings Institution blog, April.

Blanchard, Olivier (2019): Public Debt and Low Interest Rates. In: American Economic Review, Vol. 109(4), 1197-1229.

Bofinger, Peter (2019): Modern monetary theory - the dose makes the poison. Social Europe, 16. April.

Cagan, Paul (1956): The monetary dynamics of hyperinflation. In: Friedman, M. (Hrsg.): Studies in the quantity theory of money. Chicago, University of Chicago Press.

Curran, Enda (2019): Yellen Says She's 'Not a Fan of MMT' as List of Detractors Grows. Bloomberg, 25 March.

DeLong, Bradford (2019): What is Modern Monetary Theory? DeLong's Grasping Reality Blog.

Deutsche Bundesbank (2017): The role of banks, non-banks and the central bank in the money creation process. Monthly Report April, Frankfurt/M., 15-36.

Dullien, Sebastian; Tober, Silke (2019): Stärken und Schwächen der Modern Monetary Theory. Vierteljahreshefte zur Wirtschaftsforschung, 88/4, 91–101.

Dullien, Sebastian (2004): The Interaction of Monetary Policy and Wage Bargaining in the European Monetary Union. Palgrave Macmillan, London/Basingstoke.
Ehnts, Dirk H. (2017): Modern Monetary Theory and European Macroeconomics. Routledge.
Godley, Wynne (1996): Money, Finance and National Income Determination: An Integrated Approach. Levy Economics Institute, Working Paper 167, June.
International Monetary Fund (2015): World Economic Outlook. Washington DC, April.
Jakab, Zoltan; Kumhof, Michael (2019): Banks are not intermediaries of loanable funds - facts, theory and evidence. Staff Working Paper No. 761, Bank of England, June.
Kelton, Stephanie (2019): Interview. Bernie Sanders' 2016 economic advisor Stephanie Kelton on Modern Monetary Theory and the 2020 race.
Keynes, John Maynard (1930): A Treatise on Money: Vol. I., The Pure Theory of Money. In: The Collected Writings of John Maynard Keynes, Vol. 5. Palgrave Macmillan, London/Basingstoke, for the Royal Economic Society, 1971.
Keynes, John Maynard (1936): The General Theory, London.
Knapp, Georg Friedrich (1905): Staatliche Theorie des Geldes. Duncker & Humblot, Munich.
Krugman, Paul (2015): Crowding in and the Paradox of Thrift. New York Times Blog, 19 April.
Lagarde, Christine (2019): Transcript of International Monetary Fund Managing Director Christine Lagarde's Opening Press Conference. 2019 Spring Meetings, 11 April.
Leijonhufvud, Axel (1990): Natural Rate and Market Rate. In: Eatwell, J.; Milgate, M.; and Newman, P. (eds.): The New Palgrave. Money. Palgrave Macmillan, London/Basingstoke, 268-272.
Lerner, Abba P. (1943): Functional Finance and the Federal Debt. Social Research, Vol. 10, 38-51.
McLeay, Michael; Radia, Amar; Thomas, Ryland (2014): Money creation in the modern economy. Bank of England, Quarterly Bulletin Q1/2014, London, 14-26.
Minsky, Hyman P. (1986): Stabilizing an Unstable Economy. Yale University Press.
Mitchell, William; Wray, L. Randall; Watts, Martin (2019): Macroeconomics. Red Globe Press, London.
Nicolini Juan P. (2008): Hyperinflation. The New Palgrave Dictionary of Economics. Palgrave Macmillan, London/Basingstoke.
Riese, Hajo (1995): Geld: das letzte Rätsel der Nationalökonomie. In: Betz, K.; Fritsche, U.; Heine, H.; Herr, H.; Joebges, H.; Roy, T.; Schramm, J. (eds.): Grundlagen eines monetären Keynesianismus. Vol. 1, Metropolis Verlag 2001, 469-485.
Riese, H. (1986): Theorie der Inflation. Tübingen.
Robinson, Joan (1938): The Economics of Inflation. Review. The Economic Journal, 48 (191), 507-513.
Robinson, Joan (1937): Beggar-my-Neighbour Remedies for Unemployment. Essays in the Theory of Employment. Reprint 1947, Oxford.
Rogoff, Kenneth (2019): Modern Monetary Nonsense. Project Syndicate, 4 March.
Rudd, Jeremy B. (2021): Why Do We Think That Inflation Expectations Matter for Inflation? (And Should We?), Finance and Economics Discussion Series 2021-062. Washington: Board of Governors of the Federal Reserve System,
Schelkle, Waltraud (1992): Constitution and Erosion of a Monetary Economy - Development Problems of India since Independence. Schriften des Deutschen Instituts für Entwicklungspolitik, Berlin.
Schmidt, Sebastian (2017): Fiscal Activism and the Zero Nominal Interest Rate Bound. Journal of Money, Credit and Banking, Vol. 49 (4), 695-732.
Spahn, Heinz-Peter (1988): Bundesbank und Wirtschaftskrise. Studien zur monetären Ökonomie, 1, Marburg.
Starr, Ross M. (1974): The Price of Money in a Pure Exchange Monetary Economy with Taxation. In: Econometrica, Vol. 42(1), 45-54.
Summers, Lawrence (2019): The left's embrace of modern monetary theory is a recipe for disaster. Washington Post, 4. March.
Tober, Silke (1999): Die Beendigung extremer monetärer Instabilität. Studien zur monetären Ökonomie, 25, Marburg.
Tobin, James (1963): Commercial banks as creators of 'money'. Cowles Foundation Discussion Papers No. 159.
Tobin, James (1982): Nobel Lecture: Money and Finance in the Macroeconomic Process. In: Journal of Money, Credit and Banking, Vol. 14(2), 171-204.

Wray, L. R. (2015): Modern Monetary Theory. A Primer on Macroeconomics for Sovereign Monetary Systems, Palgrave Macmillan.